

## BRIEFER ARTICLES

---

### ANELSONIA, A NEW GENUS OF THE CRUCIFERAE

As GREENE remarked long ago, the so-called natural families, as Umbelliferae, Labiatae, and Cruciferae, contain relatively few natural genera, and perhaps in no group of plants are generic limitations harder to define than within some sections of the Cruciferae. Consequently, there have often been included under one generic name plants that in point of fact bear little real relationship to one another. The genus *Parrya*, as it has been treated by many recent authors, furnishes, we believe, an example of this misinterpretation of generic limitations. This genus was drawn by BROWN to include several low scapose perennials of the far North, all characterized by showy purple-red flowers and glabrous (or hirtellous with simple hairs) foliage. In 1891 GREENE (Fl. Fran. 1:253) referred to *Parrya*, *Hesperis Menziesii* Hook., a plant previously made the type of a new genus by NUTTALL (T. and G., Fl. N. Amer. 1:89. 1838) under the name *Phoenicaulis cheiranthoides* Nutt., and possessing much the same aspect as the species included by BROWN in his genus, but with the foliage whitened by a thick covering of branching and stellate hairs. A critical study and comparison of this plant with the typical members of *Parrya* has disclosed the fact, however, that technical but readily discernible differences other than the character of the pubescence exist between *Parrya* and *Phoenicaulis*. The more important of these are the lack in the latter of the conspicuous network of superimposed fibers that characterize the septum of *Parrya*, the absence of the loose epidermis so prominent about the seeds of the latter genus, the remarkably tortuous areolae, tortuous in none of the species of *Parrya*, and the nearly entire and capitate stigma. The value of characters of this type for the proper delineation of genera in the Cruciferae has been proved by PRANTL in his careful synopsis of the group in *Nat. Pflanzenfamilien*, where he retains NUTTALL'S genus.

It appears, therefore, that *Phoenicaulis* is amply distinct from *Parrya*; but, as we have already suggested, the Cruciferae as a natural family is composed of many groups, the differentiation of which has occurred within comparatively narrow limits. Such groups, possibly remotely related, may have analogous forms, and then their true relationships are apt to be lost by the systematist, particularly if he bases his classification

on vegetative characters or places too much dependence upon the often fickle "aspect." Circumstances of this nature doubtless contributed largely to the treatment by NELSON (Proc. Biol. Soc. Wash. 18:187. 1905) of *Phoenicaulis Menziesii* as a species of *Arabis*, a disposition that was adopted later by NELSON and MACBRIDE (BOT. GAZ. 55:374. 1913). It must be admitted that the arguments in favor of this treatment are far from weak; on the other hand, the highly technical nature of the characters to be considered in the proper definition of groups in a natural family must be borne in mind, and PRANTL has used to advantage, in "keying" *Phoenicaulis* and *Arabis*, the type of characters that furnish the best contrasts between *Parrya* and *Phoenicaulis*. The very possibility of considering *P. Menziesii* as an *Arabis* becomes, therefore, a strong argument for its retention as a genus distinct from both *Parrya* and *Arabis*.

We now come to a consideration of the plant which prompted these observations. This plant was described by GRAY (Proc. Am. Acad. 6:520. 1866) from meager material that was far past condition as *Draba eurycarpa*, and recently has been redescribed as *Parrya Huddelliana* A. Nels. (BOT. GAZ. 54:139. 1912). Here again we have an instance of the similarity of genera in this family, especially as regards vegetative characters. This plant would not seem at all out of place in *Draba* were aspect the only criterion we had to judge it by; and indeed the original specimen consists only of two small plants which are so mature that the seeds have all fallen. But upon examination of complete material it becomes obvious that GRAY'S species is allied to *Parrya* and *Phoenicaulis*. It is not satisfactory, however, to refer it to either of these genera. The branching pubescence, the inconspicuous white flowers, the subentire stigma, the broadly ovate-lanceolate pods, and the nearly membranous septum are some of the characters that forbid its reference to *Parrya*. The loose cellular testa about the seeds, the not at all tortuous areolae, and the inconspicuous flowers are also characters in direct contrast to those of *Phoenicaulis*. Moreover, there is the unique habit which suggests *Draba* rather than either of the genera to which it is most nearly related, but consideration of it as a *Draba* (to mention one outstanding feature) is out of the question because of the singular seed coat. Although this is suggestive of the seed coat of *Parrya*, it is of a different quality and is not winged.

Now in the proper generic allocation of these plants consideration must be given only to the value of the characters indicated for purposes of generic definition. The characters themselves are obviously definite

and distinctive; and it seems to us that there is only one possible interpretation of the problem which will conform to what experience has shown to be the logical and practical treatment of cruciferous groups. In pursuance of this view it becomes necessary to consider *Draba eurycarpa* as representing a generic type intermediate in some respects to *Parrya* and *Phoenicaulis*, and more closely related to these genera than to any others, but at the same time more distinct from either of these than they are from each other. In recognition of the notable work of AVEN NELSON, we propose that this genus bear the name *Anelsonia*.

The distinguishing characters of these related genera may be summarized as follows:

Pods ovate-lanceolate, mid-vein obscure; septum merely membranous; seeds with a loose cellular epidermis, not margined, areolae not tortuous; pubescence of branching hairs; petals white, little exceeding the pubescent sepals; stigma subentire. . . . . *Anelsonia*

Pods narrowly ensiform or more or less attenuate at both base and apex; mid-vein evident; seeds smooth without loose epidermis or, if this is present, more or less margined; petals usually red purple, much exceeding the glabrous sepals.

Pods more or less attenuate at both base and apex; septum bearing a conspicuous network of superimposed fibers; seeds with a loose cellular epidermis usually more or less winged, areolae not tortuous; pubescence wanting or the hairs simple; stigma lobed. . . . . *Parrya*

Pods narrowly ensiform; septum merely membranous; seeds smooth without loose epidermis, areolae remarkably tortuous; pubescence branching and stellate; stigma subentire. . . . . *Phoenicaulis*

**Anelsonia**, gen. nov.—Siliqua compressa ovato-lanceolata costa media inconspicue, septo membranaceo-hyalino, evanido, stigmati fere simplici. Semina 2-seriata, testa cellulosa. Sepala plus minusve pubescentia. Petala brevia.—Herbae humiles, alpinae, subcaespitosae et scapigerae, pube brevi furcata vel ramosa canae. Folia integerrima. Flores inconspicui, albi.

**Anelsonia eurycarpa** (Gray), comb. nov.—*Draba eurycarpa* Gray, Proc. Am. Acad. 6:520. 1866; *Parrya Huddelliana* A. Nels. BOT. GAZ. 54:139. 1912.

In alpine rock slides, Idaho to California.—IDAHO: Mackay, Custer County, July 31, 1911, Nelson and Macbride, no. 1466; Lost River Mountains west of Clyde, Blaine County, July 10, 1916, Macbride and Payson, no. 3128; CALIFORNIA: peak near Sonora Pass, 1863, Brewer, no. 1909.—J. F. MACBRIDE AND E. B. PAYSON, *University of Wyoming*.